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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/473,361	12/28/1999	MIN-GOO KIM	678-434	9895

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EXAMINER

ODOM, CURTIS B

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 12/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/473,361

Applicant(s)

KIM ET AL.

Examiner

Curtis B. Odom

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 4-6 and 11-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 3, which includes the limitations of claim 1, recites "wherein 1 is 1". In claim 1, the limitation "1" is in fact "1".

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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3. Claims 1-3 and 7-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Jafarkhani et al. (U.S. Patent No. 6, 125, 149).

Regarding claim 1, Jafarkhani et al. discloses a quantization method for an iterative decoder (column 6, line 34-38), comprising the steps of equally dividing (column 7, lines 21-34) received signal levels into predetermined intervals, the intervals occupying a range two times greater than a transmission signal level range of a transmitter (column 3, lines 50-60), wherein the quantizer levels selected occupy a range two times greater than the received signal frame sequence; and

quantizing the level of a signal received in each period, using the predetermined intervals (column 5, lines 36-38).

Regarding claim 2, Jafarkhani et al. discloses the quantization method of claim 1, wherein 1 is 2 (column 3, lines 50-60), wherein the quantizer levels selected occupy a range four times greater than the received signal frame sequence.

Regarding claim 3, Jafarkhani et al. discloses the quantization method of claim 1, wherein 1 is 1 (column 3, lines 50-60), wherein the quantizer levels selected occupy a range two times greater than the received signal frame sequence.

Regarding claim 7, Jafarkhani et al. discloses a quantization method for a turbo decoder (column 6, lines 34-38) in a communication system, wherein an iterative decoder can be a turbo decoder, comprising the steps of:

equally dividing (column 7, lines 21-34) received signal levels into 8 or 16 quantization scaling factor intervals using 5 to 7 quantization bits within a range of two times greater than a transmission signal level range (column 3, lines 50-60), wherein there is a quantization scaling

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factor used to convert the received signal into a sequence of bits based on quantized levels (column 3, lines 24-29) and the incoming sequence contains 5 to 7 values (column 3, lines 60); and

quantizing the level of a signal received in each period, using the predetermined intervals (column 5, lines 36-38).

Regarding claim 8, Jafarkhani et al. discloses the quantization method of claim 7, wherein 1 is 2, (column 3, lines 50-60), wherein the quantizer levels selected occupy a range four times greater than the received signal frame sequence.

Regarding claim 9, Jafarkhani et al. discloses the quantization method of claim 7, wherein the number of quantization bits is 6 (column 3, line 60), wherein the signal frame sequence is converted to a sequence of bits and the sequence of bits is 6.

Regarding claim 10, Jafarkhani et al. discloses the quantization method of claim 9, wherein the quantization scaling factor interval is 8, wherein there is a quantization scaling factor used to convert the received signal into a sequence of bits based on quantized levels (column 3, lines 24-29), and the scaling factor is 8 depending of the received signal.

Allowable Subject Matter

4. Claims 4-6 and 11-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yi (U.S. Patent No. 5, 970, 085) describes a method an receiver for coded satellite digital audio broadcasting using MAP decoders.


Kumar (U.S. Patent No. 5, 966, 401) describes decoding using SOVA.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis B. Odom whose telephone number is 703-305-4097. The examiner can normally be reached on Monday- Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-6743 for regular communications and 703-308-6743 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Curtis Odom
December 4, 2002



STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

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